

The barometer readings at Morgan City and Houma furnish data from which some idea of the pressure gradient in this and other hurricanes may be obtained. The distance from Morgan City to Houma is approximately 29 miles. At 9:40 p. m. of the 25th, when the pressure was lowest at Houma, 28.31 inches, the pressure at Morgan City was about 28.97, a difference of 0.66 inch in a distance of 29 miles, or a gradient of 0.0228 inch per mile. However, the center passed west of Houma and east of Morgan City, thereby reducing the distance, as near as can be estimated, to 22 miles. Further, the pressure was undoubtedly lower at the center than at Houma, which would increase the difference between the pressure at Morgan City and that at the center a tenth of an inch on a conservative estimate, making the gradient 0.035 per mile.

While the present hurricane was severe it was neither of the extent nor development of some in other years. Unfortunately, only in a limited number of these disturbances have we authentic barometer readings from two stations properly located near the center. One of the most remarkable of these was the hurricane of September, 1919, which passed on a course about west-northwest, 30 or 40 miles south of Key West. Sand Key lies about 8 miles south of Key West. At both stations mercurial barometer readings are available, as follows: Lowest, Key West, 28.83 inches, and at Sand Key, 28.35 inches, a difference of 0.48 in 8 miles, or 0.06 inch per mile.—*R. H. Weightman.*

CHICAGO FORECAST DISTRICT

The temperature averaged above the normal over most of the forecast district, there being a slight deficiency in northern Michigan and western North Dakota only. The excess was considerable on the central Great Plains, where extremely warm weather prevailed on several days.

The distribution of rainfall was rather irregular, deficient in some portions and excessive in others. The largest rainfalls occurred in the Ohio Valley, Cairo having a total of 12.02 inches during the month. In consequence of the heavy rains, some areas in the central valleys were flooded.

Storm movement across the district was rather sluggish, but the area covered by rainfall was at times unusually extensive for the season.

The one disturbance attended by strong winds developed in the west near the close of the second decade. Its center reached Lake Michigan on the night of August 20 and passed over Lake Huron on the 21st and 22d. This storm was attended by rather strong winds and severe squalls on Lakes Huron, Erie, and Ontario; small-craft warnings were ordered for these lakes on the morning of the 20th and continued on Lakes Erie and Ontario on the 21st. Reports show that a small steamer, the *Harold S. Gerkin*, which left the city of Erie, Pa., on the morning of the 21st, was sunk 8 miles out in the lake. The ship carried a crew of 20 men, of whom 16 were known to be rescued.

No frost warnings of any kind were issued, and no frost occurred.

Special fire-weather forecasts were issued at times to the State and National Forest Service for the northern Michigan peninsula, and special fruit-spray forecasts to the orchardists in Door County, Wis., and southwestern lower Michigan.

The forecast center made special forecasts day by day for the annual commercial reliability tour of airplanes which started from Detroit August 7 and, after a tour of

middle-western cities, returned to that place August 21, 1926. The tour started with 28 planes and finished at Detroit with 19 still in the race. (Special report was made on this work in letter of August 27, 1926.)—*H. J. Cox.*

NEW ORLEANS FORECAST DISTRICT

The only warnings required were in connection with the tropical hurricane of August 23–26. Warnings were issued by the central office, as follows:

August 23, advisory, noon: Tropical disturbance of at least moderate intensity but small diameter in approximately latitude 23, longitude 88.

August 23: Hoist northeast storm warnings 10.30 p. m. New Orleans to Matagorda, Tex. Tropical disturbance of considerable intensity but small diameter moving northwest. Estimated position, latitude 25½, longitude 90½. Impossible to indicate where storm will strike coast, but interests should be prepared to take quick action on to-morrow morning's advices.

August 24, advisory, 10.30 a. m.: Tropical disturbance located approximately latitude 26, longitude 92, of considerable intensity but small diameter, apparently recurving to the northward, will probably reach the coast somewhere between Burrwood, La., and Galveston late to-night or early Wednesday morning. Area over which destructive effects will be felt will be small. Further advices this afternoon.

August 24, advisory, 5.30 p. m.: Nothing in reports received this afternoon to change this morning's advices, except that disturbance appears to be increasing somewhat in intensity and extent. In absence of reports near center, estimated position at 5 p. m., latitude 27, longitude 92. Further advices to-night.

August 24: Hoist hurricane warnings 10 p. m. Morgan City, La., to Mobile, Ala. Tropical disturbance moving north-northeastward, central about latitude 28, longitude 90½. Will cross eastern Louisiana coast line late to-night or early to-morrow morning. Northeast and east winds will increase to hurricane force by Wednesday morning, accompanied by high tides. Advise all interests that storm is increasing in energy and extent. Northeast storm warnings have been ordered east of Mobile to Apalachicola and storm warnings have been changed to northwest west of Morgan City to Galveston.

August 25, advisory, 9.30 a. m.: Tropical disturbance increasing in intensity approaching eastern Louisiana coast. Every precaution should be taken, taking into consideration extreme high tides that will probably occur between point where center strikes coast and Mobile. Steamship *Cranford* passed hurricane center 7.45 a. m. at approximately latitude 27°, 40', longitude 90°, 40'.

August 25, 3.30 p. m.: Continue hurricane warnings 10 p. m. Morgan City, La., to Mobile, Ala. Tropical disturbance of great intensity near eastern Louisiana coast moving slowly north-northeast. Increasing northeast and east winds will reach hurricane force to-night. Winds will be dangerously severe and tides high. Every precaution should be taken.

August 25, advisory 9 p. m.: Tropical disturbance passing inland near and probably slightly east of Morgan City, La., moving north-northeastward, attended by dangerous shifting winds. No further advices this disturbance.

WEIGHTMAN.

The morning reports of the 26th showed that the storm had advanced inland to central Louisiana and had decreased greatly in energy. Warnings for this district were accordingly lowered soon thereafter.

This tropical disturbance, increasing in intensity as it slowly approached the eastern Louisiana coast, reached the coast in the afternoon of the 25th as a remarkably intense hurricane. When on the Louisiana coast it was about half as extensive as the great storm of September, 1915, but the barometric gradient within 50 miles of the center was fully as steep as in that storm. From reports of damage, the usual condition of strongest winds to the right of the center was fulfilled, but as intense storms of slow movement have less difference between wind velocity in the right and left segments than more rapidly moving storms, it is not surprising that winds of hurricane force occurred at Morgan City, which was to the left of the storm center and a few miles inland. West of Morgan City the wind velocity fell off rapidly, as shown by the effects of the storm.

Moving north-northwest, the storm passed inland over southern Terrebonne County, its center slightly west of the town of Houma, where the lowest barometer reading, corrected by bell jar comparison, was 28.31 inches, at 9:30-9:55 p. m. At Morgan City, 32 miles northwest of Houma, the lowest barometer reading, corrected in the same manner, was 28.80 inches, between 11:15 p. m. of the 25th and 12:30 a. m. of the 26th. The maximum wind velocity at Morgan City, up to the time the anemometer became unserviceable, was 70 miles an hour from the northeast at about 10:30 p. m., with an extreme velocity within a period of 10 seconds, of 90 miles an hour. At New Orleans the lowest barometer reading was 29.37 inches at midnight and 1 a. m. of the 26th, and the highest wind velocity was 44 miles an hour from the southeast at 9:42-9:47 p. m. of the 25th, with an extreme velocity of 52 miles for the fastest mile, though gusts too brief to register had still higher velocities.

After passing between Thibodaux and Morgan City, the further course of the storm center was along or near the west bank of the Mississippi River to east-central Louisiana, where the storm had so greatly weakened by 7 a. m. of the 26th that the winds were no longer dangerous. The greater part of the damage occurred from New Orleans westward to Franklin and from Donaldsonville southward to the coast. In New Orleans the damage, estimated at \$250,000, was principally due to fires where electric wiring was probably rendered defective by the winds, though there was considerable damage also to roofs of houses here and elsewhere in the storm-swept section.

An authentic, complete survey of the property losses has not been made but the probable loss is between \$3,000,000 and \$5,000,000, besides considerable damage to crops and trees. The Bureau of Agricultural Economics estimates that damage from the storm in percentage of normal crops for southern Louisiana, was about 8 per cent to sugar cane, 9 per cent to rice, 6 per cent to corn, 3 per cent to soy beans, and 14.7 per cent to pecans. Cotton, of which the acreage in this part of the State is small, suffered considerable damage also.

No vessel losses off the coast have been reported to this office. A number of small boats were sunk in harbor at Morgan City and in the Terrebonne section. In the Mississippi River a few river boats and barges, with cargoes went down.

Twenty-five persons are known to have lost their lives as a result of the storm, a few through contact with live wires, but nearly all from drowning on Felicite Island and near Gibson, both in Terrebonne County, and from the capsizing of a boat in the Mississippi River near Convent, La.

In general the tides were not remarkably high for a hurricane. In southeastern Terrebonne County, where the storm was most severely felt, the tide was 3 to 6 feet above normal over the marshes and streams, with one report of 15 feet above normal in a small locality about 30 miles south of Houma, while along the western Terrebonne coast the tide was near normal. The highest readings of the river gauge at Morgan City were only slightly above normal and reports from Burrwood indicated a storm tide of scarcely more than a foot. Considerable water accumulated in bayous and lakes around New Orleans but was not high enough to cause material damage or to delay train service on the Louisville & Nashville Railroad, the storm tide at Chef Menteur, northeast of New Orleans on this line, being about 4 feet. The Southern Pacific Railway and the Illinois Central suffered minor damage and delay of a day or two in train service.

The timely warnings resulted in the saving of much property and many lives. Boats and radiophone carried the warnings to Cameron Parish and through the Barataria Bay section to Grand Isle. The merchants of Houma, Morgan City, and other towns, through the aid of fishermen, sent the warnings to isolated sections of Terrebonne and St. Mary Counties. Interests concerned, mail, telegraph, telephone, and radio were utilized and with the able assistance of the daily newspapers, the warnings were well disseminated through the inland territory. The stations WSMB and WCBE of New Orleans and KPRC of Houston rendered valuable service and those of the Tropical Radio Co. and the United States Navy were very effective in behalf of marine interests and in collection of important weather reports from ships in the Gulf of Mexico.—*R. A. Dyke.*

DENVER FORECAST DISTRICT

The usual low-pressure conditions of summer prevailed over the Great Basin and southern Rocky Mountain regions during most of August; and during the first half of the month the Pacific Ocean high pressure extended well to the northeastward over the Alaskan coast and into western Canada. This distribution resulted in frequent light showers and thunderstorms in the central and southern mountainous regions of the district, and in dry weather in western Montana. On the morning of the 16th the Alaskan high pressure was replaced by a rather deep low that had moved eastward from the Aleutian Islands, and thereafter throughout the month low pressures prevailed over Alaska and western Canada. At times during this period offshoots of the Pacific high overspread northern California and extended inland to the northern Rocky Mountain region, causing general rains over the Pacific northwest and in Montana and Wyoming, effectually breaking the drouth. When the pressure was not unusually high along the California coast and low pressure continued along the Canadian border, unusually high temperatures prevailed in Montana and Wyoming.

Daily forecasts of wind direction and velocity for western Montana were furnished for the benefit of the Forest Service in combating the serious forest fires in that region. No other warnings were required.—*E. B. Gittings, Jr.*

SAN FRANCISCO FORECAST DISTRICT

The barometer was high over the greater portion of the northeast Pacific Ocean during the early part of August, with pressure considerably above normal in the Gulf of Alaska. A movement of this anticyclone caused rising pressure over the North Pacific States and western Canada on the 5th and advices of warmer weather were issued for Oregon and Washington, which were duly amplified in the fire-weather warnings by officials in those States. Temperatures rose as predicted and remained generally above normal with low humidity until the 9th. Similar warnings were issued for northern California on the 5th and, although temperatures did not rise materially, the hazard in the forested areas increased and numerous fires started. In the Shasta National Forest, in the extreme northern end of the State, the situation became so acute that the forest supervisor asked for special advices daily. These were sent to him morning and evening until the fires were put under control. Similar daily service was given the Sequoia National Forest on the 17th, and for several days thereafter, to aid in the suppression of serious fires in that area.